

REMARKS/ARGUMENTS

In the Office Action dated June 30, 2005, Claims 1-1, 2, 6-8, 11-15, and 22-27 are pending. Applicant appreciates the Examiner's careful reconsideration of the claims. The rejections of 1, 2, 6, and 7 have been withdrawn and these claims are now indicated to be allowable. The remaining claims stand rejected under 35 U.S.C. § 112 and/or § 103(a). In particular, Claims 13 and 22-27 are rejected under § 112, second paragraph, as being indefinite (though Claims 22-24 are indicated to be otherwise allowable). Claims 8, 11, and 15 are rejected under § 103(a) as being unpatentable over JP 11-190,201 ("JP '201") in view of U.S. Patent No. 4,702,672 to Leicht. Claims 8, 12-15, 25, and 26 are rejected under § 103(a) as being unpatentable over U.S. Patent No. 2,392,858 in view of U.S. Patent No. 5,342,168 to Weigel. Claims 8, 12-15, and 25 are rejected under § 103(a) as being unpatentable over U.S. Patent No. 5,595,473 to Nagaoka in view of Weigel. Claims 8, 12-15, and 25-27 are rejected under § 103(a) as being unpatentable over German Patent 1,016,888 ("DE '888") in view of Weigel. In addition, the Office Action objects to the specification and Claims 8, 22, 23, 25, and 26.

First, with regard to the objections to the specification and claims, Applicant is amending the specification and claims above as suggested by the Examiner. In particular, the specification is amended above to include a section titled "Brief Summary of the Invention." Regarding the objections to Claims 22, 23, 25, and 26, the specification is also amended to provide antecedent basis for the noted limitations. The descriptive portions presently added to the specification have previously been provided by the originally filed specification, claims, and/or drawings, and therefore no new matter is added. Accordingly, Applicant respectfully submits that each of the objections has been addressed.

Regarding the Examiner's continued suggested amendment to Claim 8, Applicant respectfully requests clarification. The Office Action suggests that the word "the" should be added before "blade" in Claim 8 at line 4 (after the word "of"). The term "blade" does not occur in line 4 of Claim 8. Further, the term "blades" occurs immediately after the word "of" only once in Claim 8, at the start of line 6. As this is the first instance of the term "blades" in the claim, the term "the" before blades is not required. On the possibility that the Examiner intended

instead to refer to the phrase "of gas" in line 4 of Claim 8, Applicant is amending that phrase to read "of the gas" even though this change is not required and does not affect the substance of the claim in any way. If, however, the Examiner still believes that the term "the" should be added in Claim 8, Applicant respectfully requests further clarification.

Applicant now addresses the rejection of Claims 13 and 22-27 under § 112, second paragraph. In this regard, the Office Action objects to the use of the term "radial-axial projection" in each of these dependent claims as a "double recitation" of the radial-axial projection recited in the respective independent claim. Applicant disagrees that the identification of the radial-axial projection for each of the respective features of the dependent claims is improper. Nevertheless, in an effort to expedite the prosecution of the present application, Applicant has amended Claims 22-27 to avoid any double recitations. The amendment to these claims is wholly unrelated to the substance of the claims. Applicant respectfully submits that the rejection under § 112 is addressed and requests withdrawal of the rejection.

Turning now to the rejections under § 103, Applicant respectfully requests reconsideration. Independent Claim 8 is amended above to refer to a rotary apparatus that generally includes a turbine rotor having the features of the turbine wheel of Claim 1. Accordingly, Applicant submits that Claim 8 is allowable for the same reasons as Claim 1. More particularly, Claim 8, as amended, recites that the turbine rotor has a plurality of blades that extend radially outward and define first and second edges that are generally radial and axial, respectively. The second edge of each blade is a leading edge and defines a nonlinear, concavely curved profile in radial-axial projection. In addition, the apparatus includes adjustable vanes that are disposed radially outward from the second edges so that the blades are subjected to cyclically varying aerodynamic forces during rotation of the turbine rotor. The cited references, taken alone or in fair combination, do not disclose the features of Claim 8 and, in particular, an apparatus that includes a turbine rotor with leading edges that are so configured. To the contrary, JP '201 is directed to a turbine with an impeller that has an overhung part 3b, not a second, leading edge that has a nonlinear, concavely curved profile as claimed. No part of the edge disclosed by JP '201 is concavely curved. Similarly, Leicht and the other references fail to disclose or suggest the modification of a leading edge of a blade of a turbine rotor to provide a

nonlinear, concavely curved profile at the leading edge. Indeed, Leicht, et al. does not describe any such modification to the edge. McMahan and Nagaoka are directed to compressors and do not teach or suggest modifying the leading edges of the blades of a rotor and, in particular, the leading edges of the blades of a turbine rotor. According to the Office Action, German '888 is also directed to a compressor wheel.

Therefore, Claim 8 is now allowable over the cited references, and all of the remaining rejections and objections have been resolved. Accordingly, Applicant respectfully submits that Claims 1, 2, 6-8, 11-15, and 22-27 are allowable and the application is in condition for allowance.

* * * * *

CONCLUSION

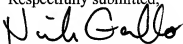
The Applicants have made a significant contribution to the art that is neither taught nor suggested by the cited prior art references. In addition, all of the objections and rejections to the claims for formalities have been addressed. Thus, it is suggested that the application is now in condition for immediate allowance and such action is respectfully solicited. Should the Examiner have any questions or comments, he is invited to telephone the undersigned to expedite allowance of the application.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required

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therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 01-1125.

Respectfully submitted,



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